

# THE PATENT OFFICE OF THE PEOPLE'S REPUBLIC OF CHINA

Attorney:	CCPIT PATENT AND TRADEMARK LAW OFFICE	Date of Notification:
Application No.:	2004800264699	Date: <u>7</u> Month: <u>9</u> Year: <u>2007</u>
Applicant:	SHIBAURA MECHATRONICS CORPORATION	
Title of the Invention:	PLASMA PROCESSING DEVICE AND ASHING METHOD	

## Notification of the First Office Action

1. ☒ The applicant requested examination as to substance and examination has been carried out on the above-identified patent application for invention under Article 35(1) of the Patent Law of the People's Republic of China (hereinafter referred to as "the Patent Law").

☐ The Chinese Patent Office has decided to examine the application on its own initiative under Article 35(2) of the Patent Law.

2. ☒ The applicant claimed priority/priorities based on the application(s):

filed in JP on August 12, 2003 .

filed in \_\_\_\_\_ on \_\_\_\_\_ .

filed in \_\_\_\_\_ on \_\_\_\_\_ .

3. omitted

4. ☐ Examination was directed to the application documents attached to the request originally filed

☒ Examination was directed to the application documents attached below

☒ Specification Page 1-16; a Chinese translation of the International application originally filed

☒ Abstract and Drawing of Abstract; a Chinese translation of International application filed on entering into the Chinese national phase.

☒ Claims 2,4,6,7,9,10; a Chinese translation of the International application originally filed  
Claims 1,3,5,8; a Chinese translation of the Amendment under Article 19.

☒ Drawings Page 1-21; a Chinese translation of the International application originally filed

☒ Below is/are the reference(s) cited in this Office Action (the reference number(s) will be used continuously throughout the examination procedure):

No.	Number(s) or Title(s) of Reference(s)	Date of Publication (or the filing date of conflicting application)
1	JP09-045495A	Date: <u>14</u> Month: <u>2</u> Year: <u>1997</u>
2	JP2001-115267A	Date: <u>24</u> Month: <u>4</u> Year: <u>2001</u>

5. Conclusions of the Action:

☐ On the Specification:

☐ The subject matter contained in the application is not patentable under Article 5 of the Patent Law.

☐ The description does not comply with Article 26 paragraph 3 of the Patent Law.

☐ The description does not comply with Article 33 of the Patent Law.

☐ The draft of the description does not comply with Rule 18 of the Implementing Regulations.

☐

☒ On the Claims:

☐ Claim(s) \_\_\_\_\_ does/do not possess the novelty as required by Article 22 paragraph 2 of the Patent

Law.

- ☒ Claim(s) 1,4,6 does/do not possess the inventiveness as required by Article 22 paragraph 3 of the Patent Law.
- ☐ Claim(s) \_\_\_\_\_ does/do not possess the practical applicability as required by Article 22 paragraph 4 of the Patent Law.
- ☐ Claim(s) \_\_\_\_\_ does/do not comply with Article 26 paragraph 4 of the Patent Law.
- ☒ Claim(s) 1,3,5,8 does/do not comply with Article 31 paragraph 1 of the Patent Law.
- ☐ Claim(s) \_\_\_\_\_ does/do not comply with Article 33 of the Patent Law
- ☐ Claim(s) \_\_\_\_\_ does/do not comply with the definition of inventions prescribed by Rules 2 paragraph 1 of the Implementing Regulations of the Patent Law.
- ☐ Claim(s) \_\_\_\_\_ does/do not comply with the provisions of Rule 13 paragraph 1 of the Implementing Regulations of the Patent Law.
- ☐ Claim(s) \_\_\_\_\_ does/do not comply with the provisions of Rule 20 to 22 of the Implementing Regulations of the Patent Law.
- ☒ Claim(s) 6,7 does/do not comply with the provision of Rules 23 of the Implementing Regulations of the Patent Law.

Refer to the text of this Notice for the specific analyses of the conclusive opinion.

6. In view of the conclusion set forth above, the Examiner is of the opinion that:

- ☐ The applicant should make amendments as directed in the text portion of the Notification.
- ☒ The applicant should expound in the response reason why the application is patentable and make amendments to the application where there are deficiencies as pointed out in the text portion of the Notification, otherwise, the application will not be allowed.
- ☐ As the applicant accept that the application contains no allowable invention, if the applicant does not make statement the reason or if the applicant does not prove that the application contains the material matter which should be patented based on sufficient reason, it will be rejected.

7. The following should be taken into consideration by the applicant in making the response:

- (1) Under Article 37 of the Patent Law, the applicant should respond to the office action within 4 months counting from the date of receipt of the Notification. If, without any justified reason, the time limit is not met, the application shall be deemed to have been withdrawn.
- (2) Any amendments to the application should be conformity with the provisions of Article 33 of the Patent Law. Substitution pages should be in duplicate and the format of the substitution should be in conformity with the relevant provision contained in "The Examination Guidelines".
- (3) The response to the Notification and/or revision of the application should be mailed to or handed over to the "Reception Division" of the Patent Office, and documents not mailed or handed over to the Reception Divisions have no legal effect.
- (4) Without an appointment, the applicant and/or his agent shall not interview with the Examiner in the Patent Office.

8. This Notification contains a text portion of 2 pages and the following attachments:

- ☒ 2 cited reference(s), totaling 19 pages.

## The Certified Copy of the First Notification of Reason(s) for Refusal

Application No.2004800261699

The subject application relates to a plasma processing device and an ashing method. As a consequence of the examination, the following reasons for refusal will be submitted.

1. The technical idea on which claim 1 intends to get right is not equipped with the invention step under Patent Law Section 22(3). The cited invention 1 (JPH09-45495A) discloses the plasma processing device and discloses specifically the following technical features. That is to say, it is 'A plasma ashing device 1A having a vacuum pump 19, a vacuum processing chamber 10 (corresponding to a chamber being possible to keep a depressurized atmosphere less than atmosphere pressure), a discharge tube 20 (corresponding to a transmission tube connected the chamber and a gases inlet body introducing the gases into the transmission tube), a micro-wave power supply 31, and a wave guide tube 30 (corresponding to a micro-wave supply source guiding the micro-wave from the outside of the transmission tube into the inside), forms a discharge plasma region 22 (corresponding to formation of the gases plasma in the transmission tube) in the discharge tube 20 and is possible to perform ashing process of the substrate. And the discharge tube 20 is connected so as to open the inner wall of the chamber perpendicular to the major surface of the substrate 11 (corresponding to the processed object), and the substrate 11 is not provided on the directly viewed line from the plasma'. Comparing the technical idea intended to get right by the claim with the technical content disclosed in the cited invention, the difference is 'The ashing process is the one that removes the resist of the processed object which the resist is formed on the low dielectric constant material (see paragraphs [0012] - [0027] and Fig. 1 in the specification)'. However, the difference is the public known common general knowledge. The ashing process removing the resist of the processed object formed by applying the present device to the low dielectric constant material is the technical means in common use to a person skilled in the art. Arriving at the technical idea intending to get right by the claim by combining the above public known common general knowledge on the basis of the cited invention is self-evident to a person skilled in the art. Therefore, the technical idea intending to get right by the claim has no prominent and substantial feature and outstanding advancement, and is not equipped with the invention step.

2. Claim 4 is a dependent claim of claims 1-3. The cited invention 2 (JP2001-115267A) discloses a plasma processing device and discloses specifically the following technical features. That is to say, it is 'A high conductance opaque member 109 (corresponding to a light shielding object) which shields the light emitted from the plasma and is pervious to active species emitted from the plasma is provided inside the plasma processing chamber 101 (see paragraphs [0029] - [0089] and Fig. 1 in the specification)'. The cited invention 2 does not disclose that the light shielding object approaches the inner wall of the chamber, but it is public known common

general knowledge in the present field. Placement of the light shielding object close to the inner wall of the chamber does not require particular originality for a person skilled in the art. Therefore, arriving at the technical idea which is further restricted to claim 4 by combining the cited invention 2 and public known common knowledge on the basis of the cited invention 1 is self-evident for a person skilled in the art. Therefore, where the cited claim 1 is not equipped with the invention step, the dependent claim is not equipped with the invention step under Patent Law Section 22(3).

3. Claim 6 is a dependent claim of claims 1-5, the additional technical feature in the restricted part is also disclosed correspondingly to the cited invention 1. That is to say, it is 'A gas flow in the discharge tube 20 arrives at the substrate 11 through a gas rectifier 13 (corresponding to providing a rectifying means adjusting a distribution of the gas flow supplied from the transmission tube over the processed object)(see paragraphs [0012] – [0027] and Fig. 1 in the specification)'. And its role in the cited invention is the same as the role in this invention, and both roles are rectifying. Therefore, arriving at the technical idea intending to get right by claim 6 by combining public known common knowledge on the basis of the cited invention 1 is self-evident for a person skilled in the art. Therefore, where the cited claim 1 is not equipped with the invention step, the dependent claim is not equipped with the invention step under Patent Law Section 22(3).

4. Where claim 1 is not equipped with the invention step, a technical feature which relates dependent claims 3, 5, 8 to dependent claim 1 is as in the following. That is to say, it is 'A plasma processing device is provided with a chamber which can keep a depressurized atmosphere less than atmosphere pressure, a transmission tube connected to the chamber, a gases inlet body introducing the gases into the transmission tube and a micro-wave supply source guiding the micro-wave, and is possible to perform ashing process removing the resist of the processed object placed in the chamber, that is, the processed object which the resist is formed over the low dielectric constant material'. This is not a technical feature having a further advancement to a conventional technique, that is, not a specific technical feature. Therefore, independent claims 1, 3, 5, 8 have not the same or corresponding specific technical feature, do not pertain to a total invention concept, have no technical interrelation, and have no unity under Patent Law Section 31(1). The applicant should delete or amend independent claims 3, 5, 8 in order to overcome the above defeat. The invention which is not intended to get right in this application can be submitted separately as a divisional application.

5. Dependent claims 6, 7 themselves are multiple dependent claims, and are not equipped with the requirement under Patent Law Section 23(2) since they cite preceding multiple dependent claims. The applicant should amend the citation relation about the above claims.

The applicant should reply within the time limit for responding to an office action specified in this notification, should explain all issues indicated in this notification in detail, and

should make an amendment to patent filing documents according to reasons for refusal indicated in this notification. Amendments to the filing documents should comply with the requirements under Patent Law Section 33, that is, should not go across the bounds described in the original specification and scope of claims.



# 中华人民共和国国家知识产权局

100037 北京市阜成门外大街2号万通新世界广场8层 中国国际贸易促进委员会专利商标事务所 李德山  E060413	发文日  
申请号: 2004800261699 	
申请人: 芝浦机械电子装置股份有限公司	
发明名称: 等离子体处理装置和灰化方法	

## 第一次审查意见通知书

(进入国家阶段的 PCT 申请)

1. ☒ 应申请人提出的实审请求, 根据专利法第 35 条第 1 款的规定, 国家知识产权局对上述发明专利申请进行实质审查。

☐ 根据专利法第 35 条第 2 款的规定, 国家知识产权局专利局决定自行对上述发明专利申请进行审查。

2. ☒ 申请人要求以其在:

JP 专利局的申请日 2003 年 08 月 12 日为优先权日,

专利局的申请日 年 月 日为优先权日,

专利局的申请日 年 月 日为优先权日。

3. ☐ 申请人于 年 月 日和 年 月 日以及 年 月 日提交了修改文件。

经审查, 申请人于 年 月 日提交的 不符合专利法实施细则第 51 条第 1 款的规定。

☐

4. ☐ 审查是针对原始提交的国际申请的中文译文进行的。

☒ 审查是针对下述申请文件进行的:

☒ 说明书 第 1-16 页, 按照进入中国国家阶段时提交的国际申请文件的中文文本;

第 页, 按照专利性国际初步报告附件的中文文本;

第 页, 按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件;

第 页, 按照依据专利法实施细则第 51 条第 1 款规定所提交的修改文件;

第 页, 按照 年 月 日所提交的修改文件。

☒ 说明书摘要和摘要附图按照进入中国国家阶段时提交的国际申请文件的中文文本。

☒ 权利要求 第 2, 4, 6, 7, 9, 10 项, 按照进入中国国家阶段时提交的国际申请文件的中文文本;

第 1, 3, 5, 8 项, 按照依据专利合作条约第 19 条规定所提交的修改文件的中文文本;

第 项, 按照专利性国际初步报告附件的中文文本;

第 项, 按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件;

第 项, 按照依据专利法实施细则第 51 条第 1 款规定所提交的修改文件;

第 项, 按照 年 月 日所提交的修改文件。

☐

☒ 附图 第 1-21 页, 按照进入中国国家阶段时提交的国际申请文件的中文文本;

第 页, 按照专利性国际初步报告附件的中文文本;

第 页, 按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件;

第 页, 按照依据专利法实施细则第 51 条第 1 款规定所提交的修改文件;

第 页, 按照 年 月 日所提交的修改文件。

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(注: 凡寄给审查员个人的信函不具有法律效力)

☐

☒ 本通知书引用下述对比文件(其编号在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期 (或抵触申请的申请日)
1	JP 特开平 9-45495A	1997-02-14
2	JP 特开 2001-115267A	2001-04-24

5. 审查的结论性意见:

☐ 关于说明书:

- ☐ 申请的内容属于专利法第 5 条规定的不授予专利权的范围。
- ☐ 说明书不符合专利法第 26 条第 3 款的规定。
- ☐ 说明书不符合专利法第 33 条的规定。
- ☐ 说明书的撰写不符合专利法实施细则第 18 条的规定。

☒ 关于权利要求书:

- ☐ 权利要求 不具备专利法第 22 条第 2 款规定的新颖性。
- ☒ 权利要求 1, 4, 6 不具备专利法第 22 条第 3 款规定的创造性。
- ☐ 权利要求 不具备专利法第 22 条第 4 款规定的实用性。
- ☐ 权利要求 属于专利法第 25 条规定的不授予专利权的范围。
- ☐ 权利要求 不符合专利法第 26 条第 4 款的规定。
- ☒ 权利要求 1, 3, 5, 8 不符合专利法第 31 条第 1 款的规定。
- ☐ 权利要求 不符合专利法第 33 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 2 条第 1 款的规定。
- ☐ 权利要求 不符合专利法实施细则第 13 条第 1 款的规定。
- ☐ 权利要求 不符合专利法实施细则第 20 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 21 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 22 条的规定。
- ☒ 权利要求 6, 7 不符合专利法实施细则第 23 条的规定。

☐ 分案的申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

6. 基于上述结论性意见, 审查员认为:

- ☐ 申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。
- ☒ 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。
- ☐ 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被驳回。

7. 申请人应注意下述事项:

- (1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的肆个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。
- (2) 申请人对其申请的修改应符合专利法第 33 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
- (3) 申请人的意见陈述书和 / 或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
- (4) 未经预约, 申请人和 / 或代理人不得前来国家知识产权局专利局与审查员举行会晤。

8. 本通知书正文部分共有 2 页, 并附有下列附件:

☒ 引用的对比文件的复印件共 2 份 19 页。

☐

审查员: 窦明生 (A143)

2007 年 8 月 25 日

审查部门

电学发明审查部

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(注: 凡寄给审查员个人的信函不具有法律效力)

## 第一次审查意见通知书正文

申请号：2004800261699

本申请涉及一种等离子体处理装置和灰化方法，经审查，现提出如下的审查意见。

1. 权利要求1所要求保护的技术方案不具备专利法第二十二条第三款规定的创造性。对比文件(JP特开平9-45495A)公开了一种等离子体处理装置，并具体公开了以下的技术特征：等离子体灰化设备1A，真空泵19，真空处理室10（相当于具有能维持比大气还减压的气氛的室），放电管20（相当于连接在所述室上的传送管，以及具有将气体导入所述传送管的气体导入机构），微波功率源31和导波管30（相当于从所述传送管的外侧向内侧导入微波的微波供给源），在放电管20内形成的放电等离子领域22（相当于在所述传送管内形成所述气体的等离子体），能实施基板的灰化处理，放电管20被连接成在垂直于基板11（相当于被处理体）的主面的所述室的内壁上开口，基板11不在等离子体眺望的直线上（参见该对比文件的说明书[0012]-[0027]段、图1）。该权利要求所要求保护的技术方案与该对比文件所公开的技术内容相比，其区别仅在于灰化处理是在低介电常数材料上形成有抗蚀剂的被处理体得除去所述抗蚀剂的灰化处理，然而这种区别是公知常识，本领域技术人员将该设备用于在低介电常数材料上形成有抗蚀剂的被处理体得除去所述抗蚀剂的灰化处理是常用的技术手段。在该对比文件的基础上结合上述公知常识以获得该权利要求所要求保护的技术方案，对所属技术领域的技术人员来说是显而易见的，因此该权利要求所要求保护的技术方案不具备突出的实质性特点和显著的进步，因而不具备创造性。

2. 权利要求4是权利要求1-3的从属权利要求，对比文件2（JP特开2001-115267A）公开了一种等离子体处理设备，并具体公开了在室101内设置有高电导不透明部件109（相当于遮光体），其遮断等离子体放出的光，并使从等离子体放出的活性种透过（参见对比文件2说明书[0029]-[0089]段、图1），虽然对比文件2并没有公开遮光体接近所述室的内壁面，但这是本领域的公知常识，将遮光体设置于接近所述室的内壁面对于本领域技术人员来说并不需要付出创造性的劳动，因此在对比文件1的基础上结合对比文件2和公知常识得出该权利要求4进一步限定的技术方案，对本领域的技术人员来说是显而易见的，因而在其引用的权利要求1不具备创造性的情况下，该从属权利要求不具备专利法第二十二条第三款规定的创造性。

3. 权利要求6是权利要求1-5的从属权利要求，其限定部分附加技术特征也已在对

比文件1中相应地公开：放电管20中的气流经过整流器13到达基板11（相当于局有调整从所述传送管供给的气流在所述被处理体上的分布的整流部件）（参见对比文件1的说明书[0012]-[0027]段、图1），且其在该对比文件中所起的作用与其在本发明中所起的作用相同，都是用于整流，因此，在对比文件1的基础上结合公知常识得出该权利要求6所要求保护的技术方案，对本领域的技术人员来说是显而易见的，在其引用的权利要求1不具备创造性的情况下，该从属权利要求不具备专利法第二十二条第三款规定的创造性。

4. 当权利要求1不具备创造性时，独立权利要求3，5，8和独立权利要求1两两之间构成相互关联的技术特征的：一种等离子体处理装置，具有能维持比大气还减压的气氛的室，连接在所述室上的传送管，将气体导入所述传送管的气体导入机构以及导入微波的微波供给源，能实施设置在所述室内的被处理体即在低介电常数材料上形成有抗蚀剂的被处理体得除去所述抗蚀剂的灰化处理，不再是对现有技术作出贡献的技术特征，即不再是特定技术特征，因而，独立权利要求1，3，5，8不再具有相同或者相应的特定技术特征，不属于一个总的发明构思，技术上无相互关联，不符合专利法第三十一条第一款有关单一性的规定。申请人应当删除或者修改独立权利要求3，5，8以克服申请缺乏单一性的缺陷。针对删除的发明，申请人可以根据有关规定另行提交分案申请。

5. 从属权利要求6，7本身是多项从属权利要求，它引用了在前的多项从属权利要求，因此不符合专利法实施细则第二十三条第二款的规定。申请人应当对该权利要求的引用关系进行修改。

申请人应在本通知书指定的答复期限内作出答复，对本通知书中提出的所有问题逐一详细地作出说明，并根据本通知书的意见对专利申请文件作出修改。申请人对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书的记载范围。

审查员：窦明生

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